AUTOMATIC INDUSTRIAL PLATING
COOK
SCHAUMBURG, ILLINOIS
ILD099200206
LPC#0312825088
SUPERFUND/ HRS

D.5
8/30/06

CERCLA
Preliminary Assessment

Illinois Environmental
Protection Agency

CERCLA
PRELIMINARY ASSESSMENT

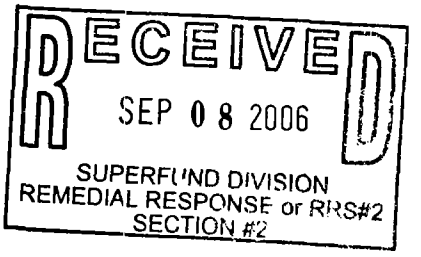
for:

AUTOMATIC INDUSTRIAL PLATING
SCHAUMBURG, ILLINOIS
ILD099200206

PREPARED BY:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND
OFFICE OF SITE EVALUATION

AUGUST 30, 2006

SIGNATURE PAGE



CERCLA PRELIMINARY ASSESSMENT

for:

AUTOMATIC INDUSTRIAL PLATING

Preparer: Gerald E. Willman, Project Manager, Office of Site Evaluation, Illinois Environmental Protection Agency

Gerald E Willman — Signature

9/5/06 — Date

Reviewer: Tom Crause, Office Manager, Office of Site Evaluation, Illinois Environmental Protection Agency

Tom Crause — Signature

9/8/06 — Date

Approval: Laura J. Ripley, Environmental Scientist, United States Environmental Protection Agency, Region 5

Laura J. Ripley — Signature

09/27/2006 — Date

The approval signatures on this page indicate that this document has been authorized for information release to the public through appropriate channels. No other forms or signatures are required to document this information release.

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EXECUTIVE SUMMARY AND RECOMMENDATIONS

The Automatic Industrial Plating site is located at 920 Morse Avenue, in Schaumburg, Cook County, Illinois. The site is located in an industrial park with a residential area nearby. The site is a defunct plating facility that covers approximately 0.5 acres. Operations conducted at the one-building facility between approximately 1970 and its close in 1991 included chrome, zinc, nickel and copper plating.

U.S. EPA initiated an emergency removal action at the facility in December of 1991. By May 2, 1992, U.S. EPA had tested, blended, and transported most of the waste off-site as well as initiated building demolition. The removal action was completed on July 9, 1992 after building demolition debris and associated soil were shipped off-site for disposal. Asphalt was placed over the former building location following demolition.

In October of 2005, a private party conducted a Phase II Assessment at the site in order to purchase the property that was once home to the facility. Six soil borings were conducted on, and adjacent to the former Automatic Industrial Plating facility. Laboratory results for samples obtained from the borings were analyzed for metals and VOCs. The analytical results for the soil samples were compared to Tier 1 Soil Remediation Objectives (SROs) and background values as established in 35 IAC Part 742 (TACO) for Commercial/Industrial properties. Contaminant concentrations that were identified by laboratory analysis were all below the values established in TACO.

Physical characteristics surrounding the site including asphalt/concrete covering and low permeability geologic materials significantly reduce the possibility for contaminant migration and the City of Chicago's ordinance restricting groundwater use in the area minimizes potential exposure via groundwater. Also, the Village of Schaumburg's operation of a municipal system since the 1950's and their policy regarding well abandonment reduces the likelihood that people near the facility use private wells as a source of drinking water.

Surface water, soil, and air exposure pathways are not of concern due to the industrial nature of the area and the property's physical attributes. The Phase II investigation results suggest that concentrations in the soil were less than remediation objectives and are protective of the groundwater. The property's purchase and subsequent Phase II investigation results support a recommendation that the site be moved to No Further Remedial Action Planned status, and archived on CERCLIS.

1.0 INTRODUCTION

On September 30, 2005, the Illinois Environmental Protection Agency's (Illinois EPA) Office of Site Evaluation was tasked by United States Environmental Protection Agency (U.S. EPA) Region V to conduct a Preliminary Assessment (PA) at the Automatic Industrial Plating site in Schaumburg, Illinois. The PA was performed by the Illinois EPA under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1990. The objective of the PA is to determine if the site poses an immediate or potential threat to human health and the environment.

2.0 SITE BACKGROUND

2.1 Site Description

The Automatic Industrial Plating site is located at 920 Morse Avenue, in Schaumburg, Cook County Illinois. The site is located in an industrial park. Residential properties are located approximately 650 feet to the northwest of the site. Wright Boulevard is the nearest cross street to the site. The property is located approximately 1000 feet north of the Elgin-O'Hare Expressway. Figure 1 shows the site location and surrounding area. Figure 2 provides an aerial photo of the site.

The area surrounding the site is flat and covered mostly by concrete and asphalt with small vegetated and landscaped areas near prominent locations at facilities

in the industrial park. The site is located at T41 N, R13 E, in the northwest ¼ of Section 33. The geographic coordinates for the site are -88° 6' 12.58" longitude, and 42° 0' 1.31" latitude.

The Automatic Industrial Plating site is a defunct plating facility that covers approximately 0.5 acres (IEPA, Site Inspection; U.S. EPA, Action Memo). Figure 2 of this document identifies the facility. During operations, the facility consisted of one main building (U.S. EPA, Action Memo).

> The company had a variety of plating operations, including chrome, zinc, nickel and copper, with most of these processes involving cyanide compounds. The company produced hazardous waste in a batch-type process. Sludge was removed from the plating line and run through an on-site wastewater pre-treatment process and dried. In addition to plating operations, the facility operated an on-site vapor degreaser containing solvents. An inspection conducted at the facility in 1991 noted numerous spills and stains at the site (one had migrated through the building's wall), drums without labels, and failure to report to state and federal regulatory agencies. (IEPA, Narrative)

Attachment 1 of this report contains pictures that were taken of the site during an inspection on January 12, 2006.

2.2 Operational History

The exact dates of operation for the facility are unknown. Building materials and ages of neighboring businesses in the industrial park suggest that the facility probably began operations between the late 1960's and early 1970's (United

Environmental; IEPA Site visit). Automatic Industrial Plating was incorporated on September 18, 1981, indicating the facility was likely in operation from at least 1981 – July 20, 1991 (Illinois, Secretary). "In April of 1990, the Metropolitan Water Reclamation District of Greater Chicago issued a notice of non-compliance for effluent from the Automatic Industrial Plating facility." (U.S. EPA, Action Memo) "In July of 1990, the district issued a notice of violation for the detection of copper, zinc, chromium, nickel, and lead in effluent from the facility." (U.S. EPA, Action Memo). In April 1991, Illinois EPA conducted a Resource Conservation and Recovery Act (RCRA) inspection at the facility (IEPA, Narrative). The company officially abandoned operations at the facility on July 20, 1991. (U.S. EPA, Action Memo)

In September of 1991, Illinois EPA conducted an additional inspection of the abandoned facility. The following highlights some of the materials remaining at the facility as of the September 27, 1991 inspection:

- 1500 gallon tank full of liquid plating waste;
- 400 gallon tank with approximately 300 gallons of plating rinses;
- 11 - 55-gallon drums full of chrome solution;
- 10 - 55-gallon drums of zinc plating solution;
- 10 drums of nickel plating solution; and
- 7 – 55-gallon drums of copper cyanide solution. (IEPA, Inspection)

Illinois EPA referred the site to U.S. EPA's Emergency and Enforcement Response Branch for emergency removal on December 19, 1991 (U.S. EPA, Action Memo).

2.3 U.S. EPA Removal Actions

U.S. EPA responded to the site on December 20, 1991 with a site assessment and evaluation of wastes remaining on the property (U.S. EPA, Action). U.S. EPA mobilized to the site, along with their contractor on December 26, 1991 and secured the building and leaking waste containers (U.S. EPA, Initial). By May 2, 1992, U.S. EPA had tested, blended, and transported most of the waste off-site as well as initiated building demolition (U.S. EPA, May). As stated within the Final Pollution Report completed by U.S. EPA, the removal action was completed on July 9, 1992 after building demolition debris and associated soil were shipped off-site for disposal (U.S. EPA, Final). The Final Pollution Report is provided as Attachment 2 of this report. Asphalt was placed over former building location following demolition (U.S. EPA, Final). In November of 1994, the U.S. EPA's On-Scene Coordinator's Report concluded that: "Removal of hazardous materials and the building structure effectively mitigated threats to human health and the environment posed by hazardous materials at the site." (U.S. EPA, On-Scene)

2.4 Site Geology

Local and Regional geology for the area surrounding the site is described in a Phase I Report prepared for the property adjacent to the site on the west, 924 Morse Avenue as well as in several reports produced by Illinois State Geological Survey (ISGS). The Schaumburg and western Cook County area has generally flat to rolling surface features resulting from glacial deposits consisting of Moraines and River Valley Deposits (United Environmental; Bogner).

Unconsolidated deposits in the area are from the Wedron Formation represented at the surface by the Wadsworth Till member (Willman). "The Wadsworth Till member consists mostly of gray clayey till." (Willman) The Wedron Formation averages approximately 125 feet thick throughout the Schaumburg area (United Environmental). The shallow soils with their high clay content generally lack extensive hydraulic interconnections and any water-bearing lenses of sand and silt are usually perched and recharged by infiltration (United Environmental).

The two primary aquifer systems in the immediate region are bedrock aquifers: an upper Silurian dolomite aquifer and a deeper Cambro-Ordovician sandstone and dolomite bedrock aquifer (Willman; United Environmental). The depth to the more shallow bedrock aquifer is approximately 125 feet below ground surface according to Illinois State Water Survey. However, groundwater is not a primary source of drinking water in the greater Chicago area because Lake Michigan is used for drinking water purposes (United Environmental; IEPA, SWAP). Several private wells are located in the area surrounding the site ranging from 180 feet to 355 feet in depth (ISGS, Oracle). A 4-mile radius map showing private drinking water wells and water supply wells near the site is included in this report as Figure 4. Groundwater use is discussed in detail in Section 3.1 of this report.

2.5 Waste Characteristics

As discussed in previous sections of this report, in 1991 and 1992 U.S. EPA conducted an emergency removal at the facility site and removed plating wastes

from numerous vats, tanks and drums existing on-site. Sample results from waste samples collected by Illinois EPA indicate that wastes with the following characteristics were present on site:

- pH values in several instances below 2 and greater than 10;
- Cadmium concentrations up to 133 parts per million (ppm);
- Hexavalent chromium concentrations up to 490,000 ppm;
- Total chromium concentrations up to 591,000 ppm; and,
- Total cyanide concentrations up to 13,000 ppm.

In addition, the presence of trichoroethylene was identified in waste from a vapor degreaser on the site. (IEPA, Narrative)

2.6 Voluntary Site Investigations

In 1996, the owner of Collision Service Center located at 924 Morse Avenue, the property immediately to the west of the site, conducted a Phase I Environmental Audit at his facility. One of the Recognized Environmental Conditions (REC) identified at the facility was the neighboring property, the former Automatic Industrial Plating facility. However, at some point following the 1996 Phase I, the owner of the Collision Service Center purchased the property at 920 (the former Automatic Industrial Plating facility) and began to use the asphalt paved area for parking automobiles.

In October of 2005, a private party took steps to purchase the Collision Service Center, now comprised of parcels 924 and 920 Morse Avenue. As a part of the

purchasing process, a limited Phase II investigation was conducted at the 924 and the 920 Morse parcels. Six soil borings were conducted on, and adjacent to the former Automatic Industrial Plating facility (Superior). The location of the six soil borings is provided on Figure 3 (prepared by Superior Environmental) of this report. Each of the six soil borings were performed to a depth of approximately 16 feet below ground surface. Four soil samples were collected from each soil boring (one per 4-foot core) and screened for volatile organic vapors using a photo ionization detector. In addition one soil sample from each boring was sent to a laboratory for analysis. The three samples obtained from the borings conducted on the Automatic Industrial Plating facility were analyzed for pH and 13 priority pollutant metals. The three samples collected from the property boundary between 920 Morse Avenue and 924 Morse Avenue were analyzed for pH and Volatile Organic Compounds (VOCs). (Superior)

Superior Environmental Corp compared the analytical results for the soil samples to Tier 1 Soil Remediation Objectives (SROs) and background values as established in 35 IAC Part 742 (TACO) for Commercial/Industrial properties. A review conducted by Illinois EPA confirmed that contaminant concentrations that were identified by laboratory analysis were all below the values established in TACO.

3.0 PATHWAY EVALUATION

3.1 Groundwater

As discussed previously, the glacial drift material beneath the facility is clay and silty clay material associated with a low permeability. Ground water found within 100 feet of the surface is expected to be perched in pockets of sand and gravel with few interconnections.

Drinking water is provided to residential and commercial properties in Schaumberg through the village's municipal water system. The Village of Schaumburg began the use groundwater collected through municipal wells and distributed to residents in the 1950's. The village required that residents abandon their existing wells as they were connected to the municipal system or were annexed into the village. In 1988, the village placed municipal wells on back-up status and began to purchase water from the City of Chicago. In 2005, the municipal wells were disconnected from the municipal system all together and water from DuPage County became the back-up source. Both the City of Chicago and DuPage County use Lake Michigan as a water supply. (Verner, 7/19/06)

Information obtained from Illinois EPA's electronic database of water wells in Illinois suggests that at one time, eight private drinking water wells were located within 0.5 miles of the facility, ranging in depth from 180 – 355 feet (ISGS, Oracle). The village of Hanover Park uses a combination of groundwater and

surface water to supply to its residents with drinking water (ISGS, SWAP). One of Hanover Park's municipal wells is located approximately 1.5 miles west of the site (ISGS, Oracle). However, only 3% of Hanover Parks drinking water is supplied by groundwater sources (ISGS, SWAP).

Cook County has a Groundwater ordinance in place that prohibits construction of new drinking water wells within the county. Only one private well is within 0.25 miles of the site and its use for drinking water is questionable because its location in the middle of an industrial park and because the Schuamburg requires well abandonment following hook-up or annexation (Verner, 7/19/06). Contaminants associated with plating operations at this site are not likely to migrate great distances or find their way into a drinking water well in consideration of the following circumstances:

- U.S. EPA removed source material stored in drums and vats in the facility.
- Concentrations observed in soil at the site are less than remediation objectives designed to be protective for groundwater
- The low permeability of geologic materials beneath the facility;
- The low interconnectivity of any water bearing zones in the region;
- The depth of the wells in the region (180 feet or greater); and,
- Infiltration barriers created by buildings, concrete, and asphalt in the industrial park.

3.2 Surface Water

The site is relatively flat and un-vegetated. During periods of heavy precipitation surface water run-off would likely be controlled by curbs and culverts associated with roads to the north and south of the site. Surface water run-off collected by curbs and culverts would be directed into the city of Schaumburg's storm water sewer system and handled in accordance with applicable regulations. No surface water is present within 0.5 miles of the site.

3.3 Soil Exposure and Air

Exposure to soils at the facility is expected to be minimal. The entire property is covered by asphalt, gravel, or concrete. The property is used for industrial/commercial purposes as are all adjacent properties.

4.0 SUMMARY AND CONCLUSION

It is estimated that plating operations began at the Automatic Industrial Plating site in approximately 1970 and continued until the facility's abandonment in 1991. Only one owner was identified during the years of operation. Plating operations involving compounds containing chrome, zinc, nickel, copper, and cyanide contributed to near-surface contamination of the building materials and soils immediately beneath the facility. An on-site solvent-based vapor degreaser was also used at the facility. The immediate removal conducted by U.S. EPA removed immediate and substantial threats including solids, liquids, and sludges

remaining from plating operations as well as building materials and associated debris.

The City of Chicago's ordinance restricting groundwater use in the area minimizes potential exposure via groundwater. Also, the Village of Schaumburg's operation of a municipal system since the 1950's and their policy regarding well abandonment reduces the likelihood that people near the facility use private wells as a source of drinking water in areas near the site. Surface water, soil, and air exposure pathways are not of concern due to the industrial nature of the area and the properties physical attributes. The Phase II investigation results suggest that concentrations in the soil were less than remediation objectives and are protective of the groundwater. The property's purchase and subsequent Phase II investigation results suggest that it is reasonable to remove this site from CERCLIS.

REFERENCES

Bogner, Jean E. Geology for Planning in Cook County, Illinois, Volume V. In: Geology for Planning in Northeastern Illinois. Illinois State Geological Survey., Circular Report No. 502. Urbana, Illinois. May 21, 1976.

Illinois Environmental Protection Agency. Site Visit Memorandum from Jerry Willman to Division File (Unpublished Report). Bureau of Land Division File, Ref. No. L0312825088 Automatic Industrial Plating, Illinois EPA, Springfield, IL. August 28, 2006.

Illinois Environmental Protection Agency. Narrative for RCRA Inspection (Unpublished Report). Bureau of Land Division File, Ref. No. L0312825088 Automatic Industrial Plating, Illinois EPA, Springfield, IL. April 4, 1991.

Illinois Environmental Protection Agency. Source Water Assessment Program: Source Water Assessment Summary: 0314890: Schaumburg. Electronic Fact Sheet maintained by Bureau of Water. http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl. Accessed April 27, 2006.

Illinois Environmental Protection Agency. Inspection Inventory from September 27, 1991 (Unpublished Report). Bureau of Land Division File, Ref. No. L0312825088 Automatic Industrial Plating, Illinois EPA, Springfield, IL. September 27, 1991.

Illinois Secretary of State. CyberdriveIllinois Website, Corporation File Detail Report. http://cdsprod.ilsos.net/corp.html. Accessed 4/19/2006.

Illinois State Geological Survey. Oracle Well and Boring Database. Geologic Records Unit. Illinois State Geological Survey. Champaign, Illinois. Accessed December 2004.

Superior Environmental Corporation. Limited Phase II Subsurface Investigation Report: Commercial Property 920 – 924 Morse Avenue, Schaumburg, Illinois (Unpublished Report). Superior Environmental Corporation. Marne, Michigan. November 17, 2005.

United Environmental Consultants, Inc. Phase I Environmental Audit: 924 Morse Avenue, Schaumburg, Illinois 60193 (Unpublished Report). United Environmental Consultants, Inc. 1527 Bourban Parkway, Streamwood, Illinois 60107. Bureau of Land Division File, Ref. No. L0312825088 Automatic Industrial Plating, Illinois EPA, Springfield, IL. August 28, 1996.

United States Environmental Protection Agency. Action Memorandum from Stavrous Emmanouil to David Ulrich (Unpublished Report). U.S. EPA Region V

File, Ref. No. ILD099200206 Automatic Industrial Plating, Chicago, Illinois. January 13, 1992.

United States Environmental Protection Agency. Initial Pollution Report Memorandum from Stavrous Emmanouil to N. Niedergang (Unpublished Report). U.S. EPA Region V File, Ref. No. ILD099200206 Automatic Industrial Plating, Chicago, Illinois. January 2, 1992.

United States Environmental Protection Agency. May 1, 1992 Progress Pollution Report Memorandum from Stavrous Emmanouil to N. Niedergang (Unpublished Report). U.S. EPA Region V File, Ref. No. ILD099200206 Automatic Industrial Plating, Chicago, Illinois. May 2, 1992.

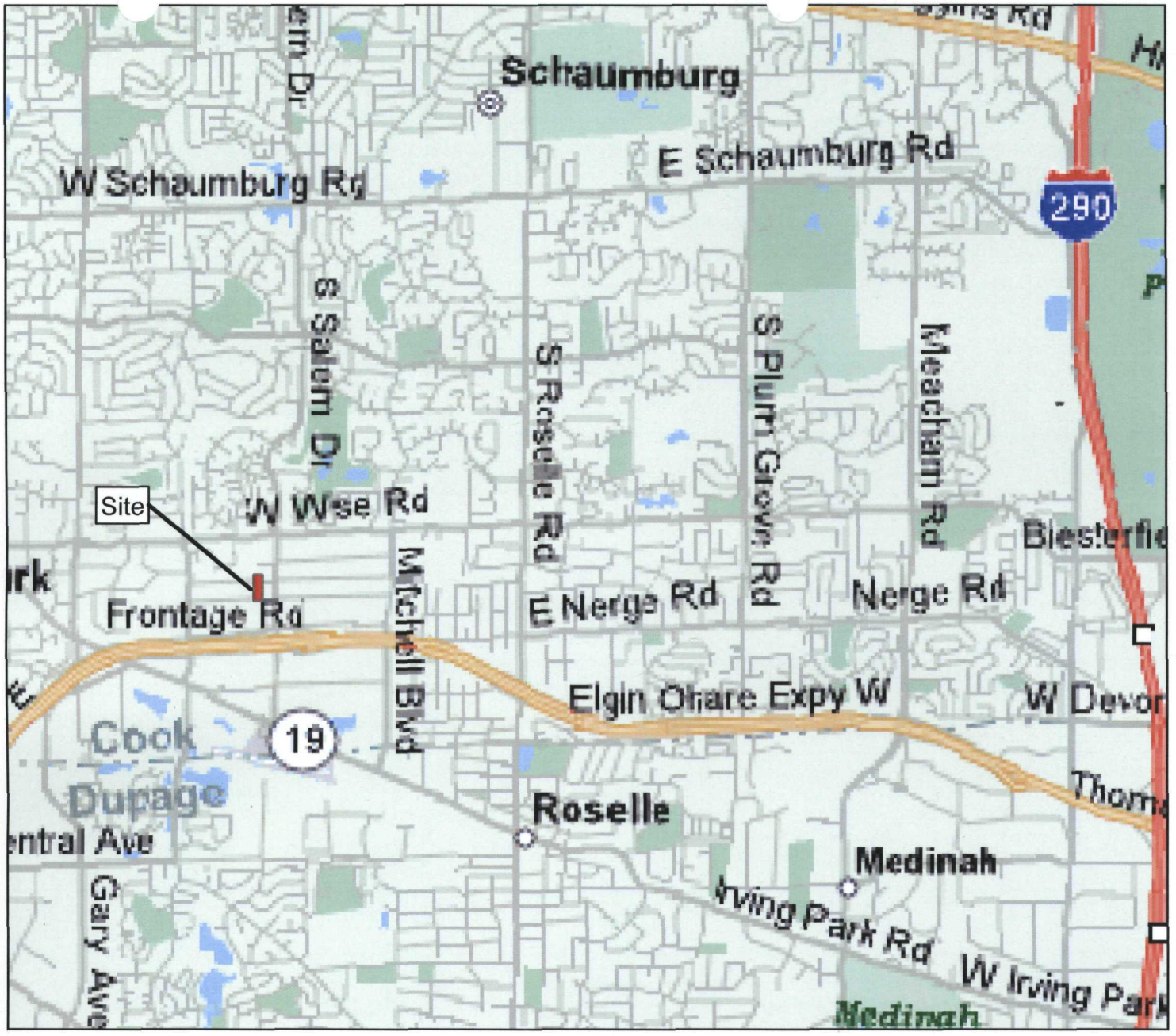
United States Environmental Protection Agency. Final Progress Pollution Report Memorandum from Stavrous Emmanouil to B. Bowden (Unpublished Report). U.S. EPA Region V File, Ref. No. ILD099200206 Automatic Industrial Plating, Chicago, Illinois. July 10, 1992.

United States Environmental Protection Agency. On-Scene Coordinator's Report Memorandum from Stavrous Emmanouil to Rick Carl (Unpublished Report). U.S. EPA Region V File, Ref. No. ILD099200206 Automatic Industrial Plating, Chicago, Illinois. November 28, 1994.

Willman, H.B. Summary of the Geology of the Chicago Area. Illinois State Geological Survey., Circular Report No. 460. Urbana, Illinois. 1971.

Verner, Dave. July 19, 2006 Personal Interview by Telephone conducted by Jerry Willman. Schaumburg Department of Engineering. (847)895-4500. July 19, 2006.

Figures



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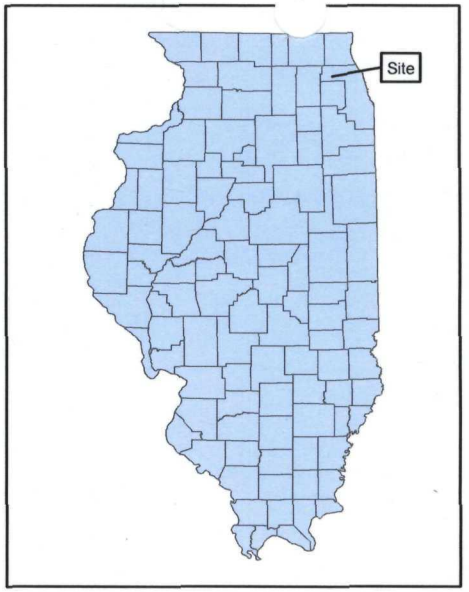


Figure 1

Automatic Industrial Plating
Site Location Map

Legend

- Site

Note: Size of site on map increased for legibility

N
W E
S

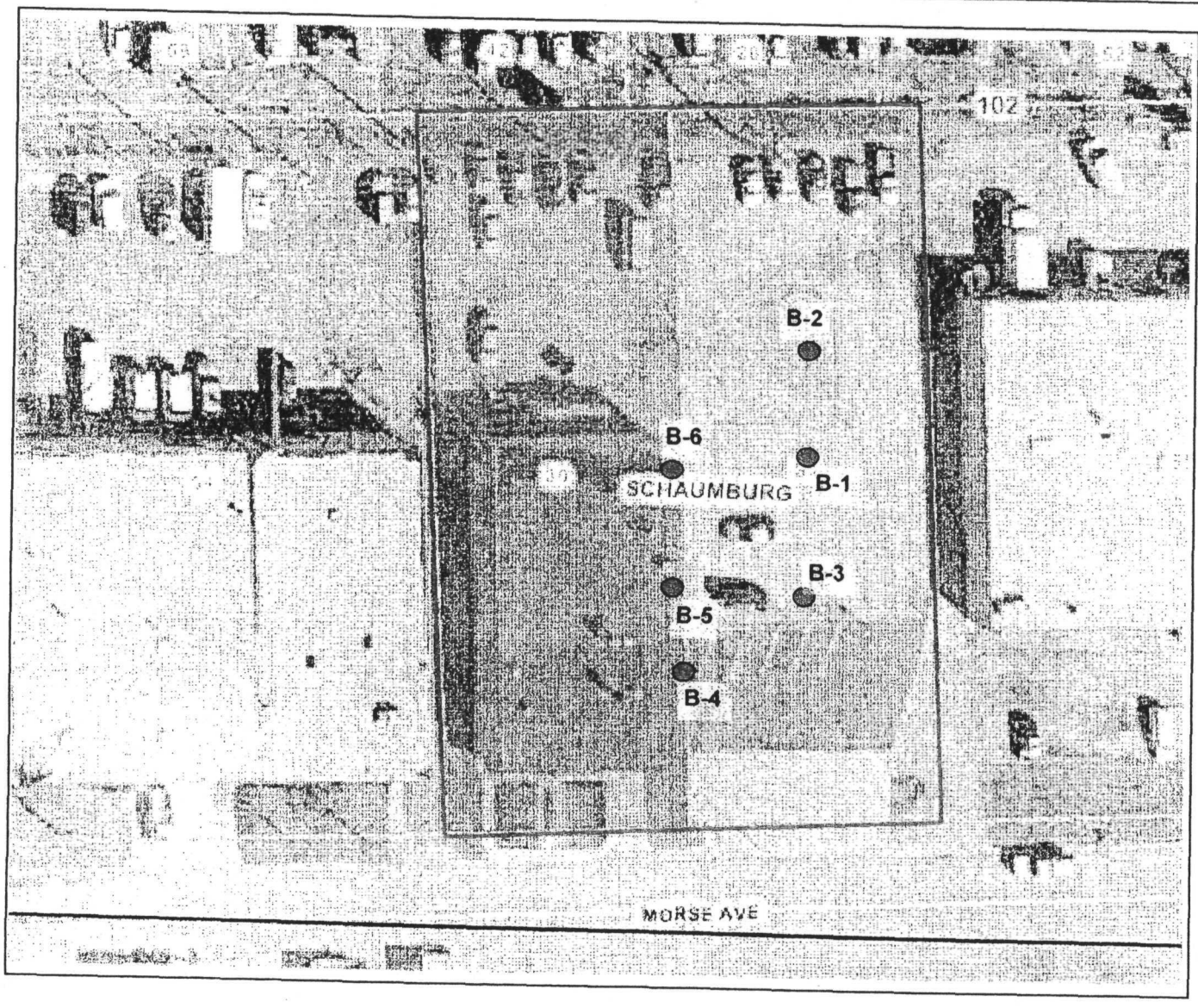
Figure 2
Site Map
Automatic Industrial Plating
920 Morse Avenue
Schaumburg, Illinois

0 12.5 25 50 75 100
Meters

Source: http://terraserver.homeadvisor.msn.com/

Legend
Site Boundary

N
W E
S



NORTH

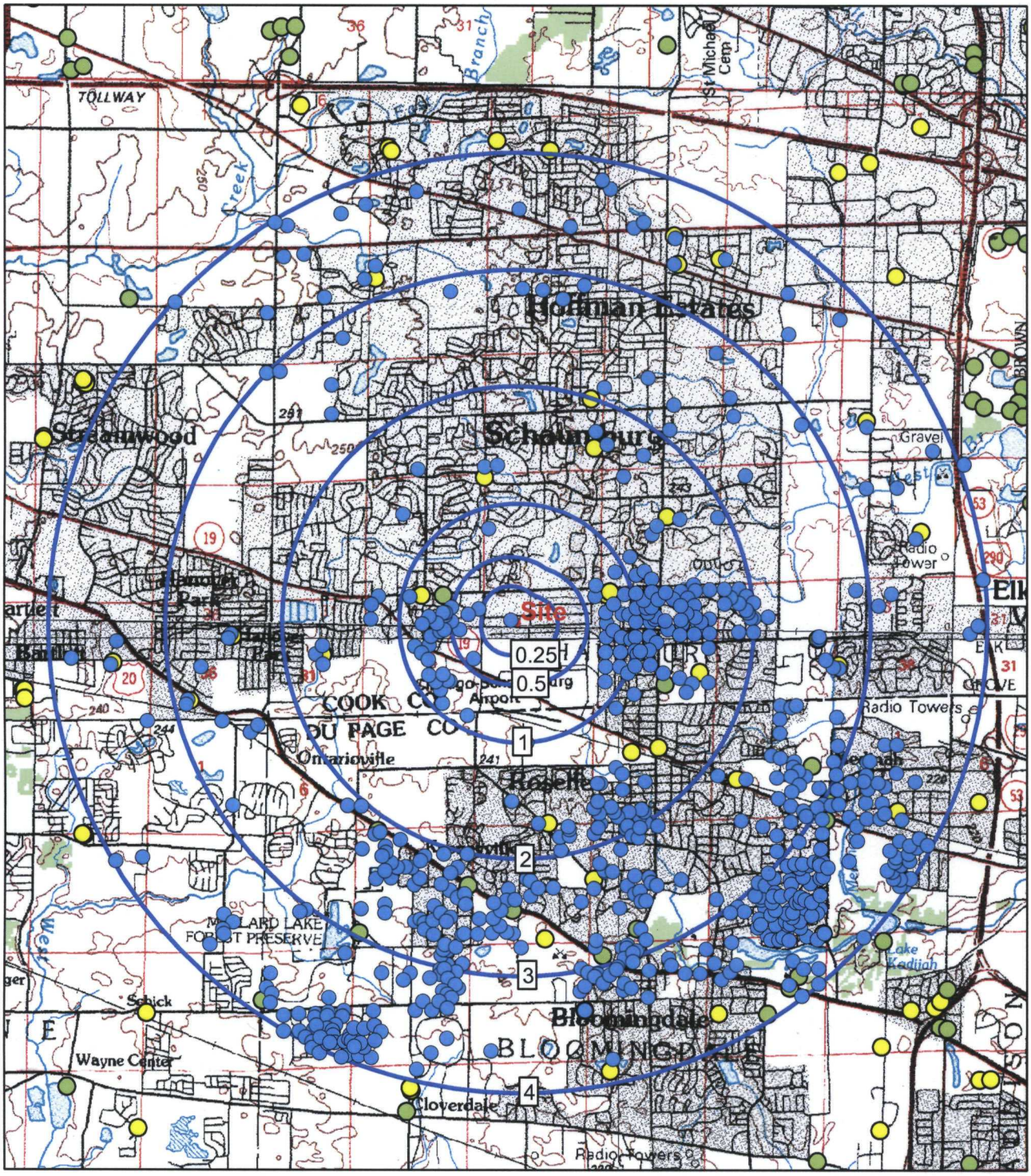
Source: Aerial Photograph from Cook County Assessor's Office

BORING LOCATION MAP	
FIGURE 3	
Commercial Property 920-924 Morse Avenue Schaumburg, Illinois	DATE: 11/17/2005
Superior ENVIRONMENTAL CORP 951 South 7th Street, Suite 200 Rochelle, IL 61068 815.562.5541	DRAWN BY: SC SUPERVISOR: JT CHECKED BY: JRP
FILE: RC1743.00/technical/BoringLocationMap	PROJECT NO.: RC1743.00

Figure 4

Four-Mile Radius Map
Automatic Industrial Plating

920 Morse Avenue
Schaumburg, Illinois



Source: United States Geological Survey
Digital Topographical Map at:
http://www.isgs.uiuc.edu/nsdihome/ISGSindex.html

Legend

- Site
- Private Drinking Water Well
- Community Water Supply Well
- Non-community Water Supply Well
- 2 Distance from Site in Miles

N
W E
S

Attachments

SITE NAME: Automatic Industrial Plating	
CERCLIS ID: ILD099200206	**COUNTY:** Cook

DATE:	12-Jan-06
TIME:	9:15 AM
PHOTO BY:	J. Willman
DIRECTION: North	
COMMENTS: Photo of 920 Morse Avenue. It is currently an empty lot owned and used for equipment storage and parking for Collision Service Center	

DATE:	12-Jan-06
TIME:	9:18 AM
PHOTO BY:	J. Willman
DIRECTION: Northwest	
COMMENTS: Photo of 920 Morse Avenue. It is currently an empty lot owned and used for equipment storage and parking for Collision Service Center	

SITE NAME: Automatic Industrial Plating	
CERCLIS ID: ILD099200206	COUNTY: Cook

DATE:	12-Jan-06
TIME:	9:20 AM
PHOTO BY:	J. Willman
DIRECTION:	North
COMMENTS:	
Photo of 924 Morse Avenue, Collision Service Center	

DATE:	12-Jan-06
TIME:	9:22 AM
PHOTO BY:	J. Willman
DIRECTION:	North
COMMENTS:	
Photo of property to east of 920 Morse Avenue: L&L X-Ray, Seimic Inc.	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

FINAL POLREP

0312825088 Cook
Automatic Industrial Plating
Superfund/Tech

DATE: 7/10/92

FROM: STAVROS EMMANOUIL, OSC, EERB, RESPONSE SECTION II

TO: B. BOWDEN, EERB, (EPA 9538), FAX 312-353-9176
M. O'MARA, ESS, (EPA 9538), FAX 312-353-9176
D. BRUCE, EERB, (EPA 9538), FAX 312-353-9176
M. FARYAN, ORC (EPA 9538), 312-886-7160
D. O'RIODAN, OPA (EPA 9538) 312-353-1155
T. JOHNSON, (EPA 5511), FAX 202-260-9155
D. KLOPKE, IEPA, FAX 708-531-5930
J. CONNOLLY, SCHAUMBURG FIRE DEPARTMENT, FAX 708-980-4479
U.S. COAST GUARD, DISTRICT 9, FAX 216-522-3261
U.S. COAST GUARD, DISTRICT 2, FAX 314-539-2649
U.S. FISH AND WILDLIFE SERVICE, ILLINOIS, FAX 309-793-5804

SUBJECT: AUTOMATIC INDUSTRIAL PLATING SITE, SCHAUMBURG, COOK COUNTY, ILLINOIS

FINAL POLREP

SITE NO: PV
D.O. NO: 7640-05-208
RESPONSE AUTHORITY: CERCLA
NPL STATUS: NON-NPL
START DATE: 12/26/91

1. SITE ACTIVITIES

A. Removal activities commenced on 12/26/91 and concluded on July 9, 1992.

B. Actions week of July 6 to 9, 1992:

- Manifested and transported contaminated building demolition debris to landfill for disposal.

- Manifested and transported 25 drums of Chrome Solids (Group B), 18 drums of B/N Liquids (Group C), and 18 drums of B/N Solids (Group D), for disposal.

- All site activities specified in the Action Memorandum for the Automatic Industrial Plating site were completed on July 9, 1992.

2. COST INFORMATION

PROJECTED CEILING: $ 684,000.00

	TOTAL TO DATE	CEILING
ERCS	577,833.83	600,000.00
TAT	72,121.61	84,000.00
EPA	19,282.50	20,000.00